

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-17. (Canceled)

Claim 18 (Currently Amended): A multicast transmission method in a multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, said multicast transmission method comprising the steps of:

a mobile station sending a retransmission request signal to said base station when said mobile station detects an error in a multicast signal; and

said base station determining directivity of an antenna ~~on the basis of an incoming wave from said mobile station~~ so as to increase gain for said mobile station that sends said retransmission request signal, and retransmitting a multicast signal by using said directivity.

Claims 19-20 (Canceled).

Claim 21 (Currently Amended): A multicast transmission method in a multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, ~~wherein said multicast transmission method comprising the steps of:~~

a mobile station measures ~~measuring~~ receiving quality of a multicast signal received from said base station, ~~and judging whether said mobile station sends a retransmission request signal according to a result of said measuring;~~

when said mobile station detects an error in said multicast signal, said mobile station sends said retransmission request signal when said receiving quality is better than a

predetermined value, and said mobile station stores said retransmission request signal when said receiving quality of not better than a predetermined value; and

said mobile station sends said retransmission request signal which is stored when receiving quality becomes better than a predetermined value, and

said base station retransmits ~~retransmitting~~ a multicast signal corresponding to said retransmission request signal when said base station receives said retransmission request signal from said mobile station.

Claim 22 (Canceled).

Claim 23 (Currently Amended): The multicast transmission method as claimed in ~~one~~ of claims 21 ~~or 22~~, wherein said receiving quality is receiving power of a received multicast signal, a ratio (CIR) between received multicast signal and interference power, an error rate of bit, packet or slot of a received multicast signal, or, a correction bit number or likelihood obtained when decoding error correction code.

Claim 24 (Currently Amended): The multicast transmission method as claimed in ~~one of claim~~[[s]] ~~18 17-23~~, wherein:

when said base station sends a retransmitting multicast signal or when said base station sends a new multicast signal after sending a retransmitting multicast signal, said base station sends said retransmitting multicast signal or said new multicast signal by using a specific channel which is occupied for communication between a mobile station which receives said retransmitting multicast signal or said new multicast signal and said base station.

Claim 25 (Currently Amended): A multicast transmission method in a multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, The multicast transmission method as claimed in one of claims 17-24, wherein:

if said mobile station receives a retransmitted multicast signal without an error after sending a retransmission request signal to said base station when detecting an error in a received multicast signal, said mobile station does not perform error detection for a multicast signal which includes the same information as said retransmitted multicast signal and which is further retransmitted after receiving said retransmitted multicast signal; and

when said mobile station does not detect any error in a received multicast signal, said mobile station does not send any signal,

said base station monitors a receiving state of said multicast signal in said mobile stations, and changing a transmission methods to conform to said receiving state according to a result of monitoring, and sending a multicast signal.

Claim 26 (Canceled).

Claim 27 (Currently Amended): A multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, wherein:

a mobile station sends a retransmission request signal to said base station when said mobile station detects an error in a multicast signal; and

said base station determines directivity of an antenna ~~on the basis of an incoming wave from said mobile station~~ so as to increase gain for said mobile station that sends said retransmission request signal, and retransmits a multicast signal by using said directivity.

Claim 28 (Currently Amended): A multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, wherein;

a mobile station measures receiving quality of a multicast signal received from said base station, ~~and judges whether said mobile station sends a retransmission request signal according to a result of measuring; and~~

when said mobile station detects an error in said multicast signal, said mobile station sends a retransmission request signal when said receiving quality is better than a predetermined value; and

said mobile station stores said retransmission request signal when said receiving quality is not better than a predetermined value, and

said mobile station sends said retransmission request signal which is stored when receiving quality becomes better than a predetermined value, and

said base station retransmits a multicast signal corresponding to said retransmission request signal when said base station receives said retransmission request signal from said mobile station.

Claim 29 (Original): A mobile station in a multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, said mobile station comprising:

means for measuring receiving quality;

means for sending a retransmission request signal if said receiving quality is better than a predetermined value when said mobile station detects an error in a multicast signal;

means for storing said retransmission request signal when said receiving quality is not better than a predetermined value, and sending said retransmission request signal which is stored when receiving quality becomes better than a predetermined value.

Claim 30 (Original) The mobile station as claimed in claim 29, wherein said receiving quality is receiving power of a received multicast signal, a ratio (CIR) between received multicast signal and interference power, an error rate of bit, packet or slot of a received multicast signal, or, a correction bit number or likelihood obtained when decoding error correction code.

Claim 31 (Original): A mobile station in a multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, said mobile station comprising;

means for controlling said mobile station such that if said mobile station receives a retransmitted multicast signal without an error after sending a retransmission request signal to said base station when detecting an error in a received multicast signal, said mobile station does not perform error detection for a multicast signal which includes the same information as said retransmitted multicast signal and which is further retransmitted after receiving said retransmitted multicast signal, and when said mobile station does not detect any error in a received multicast signal, said mobile station does not send any signal.

Claim 32 (Canceled).

Claim 33 (Currently Amended): A base station in a multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, said base station comprising:

a part configured to receive a retransmission request signal sent by a mobile station that detects an error in a multicast signal;

~~means for determining a part configured to determine~~ directivity of an antenna ~~on the~~  
~~basis of an incoming wave from said mobile station so as to increase gain for said mobile~~  
~~station that sends said retransmission request signal~~, and

~~retransmitting~~ retransmit a multicast signal by using said directivity.

Claims 34-36 (Canceled).

Claim 37 (New) A multicast transmission method in a multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, said multicast transmission method comprising the steps of:

a mobile station in said mobile stations sending spreading code as a retransmission request signal to said base station when said mobile station detects an error in a received multicast signal; and

said base station obtaining a correlation value of said spreading code by using a correlator, judging that said spreading code is a retransmission request when said correlation value is greater than a threshold, and retransmitting a multicast signal corresponding to said retransmission request.

Claim 38 (New): A multicast transmission method in a multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, said multicast transmission method comprising the steps of:

a mobile station in said mobile stations sending spreading code as a retransmission request signal to said base station when said mobile station detects an error in a received multicast signal, wherein multicast signals are numbered, and said spreading code is uniquely associated with a number of the received multicast signal; and

said base station obtaining correlation values between said spreading code and every possible spreading code by using a correlator, judging that said spreading code is a retransmission request when there is a correlation value that is greater than a threshold, and retransmitting a multicast signal of a number corresponding to spreading code used for obtaining the correlation value that is greater than the threshold.

Claim 39 (New): The multicast transmission method as claimed in claim 37, wherein said spreading code is orthogonal Gold code.

Claim 40 (New): A multicast transmission method in a multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, said multicast transmission method comprising the steps of:

a mobile station in said mobile stations sending spreading code as a retransmission request signal to said base station when said mobile station detects an error in a received multicast signal; and

said base station obtaining a distance between said spreading code and other spreading code by using an error correction decoder, judging that said spreading code is a retransmission request when receiving quality obtained by the distance is greater than a threshold, and retransmitting a multicast signal corresponding to said retransmission request.

Claim 41 (New): A multicast transmission method in a multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, said multicast transmission method comprising the steps of:

a mobile station in said mobile stations sending spreading code as a retransmission request signal to said base station when said mobile station detects an error in a received multicast signal, wherein multicast signals are numbered, and said spreading code is uniquely associated with a number of the received multicast signal; and

said base station obtaining distances between said spreading code and every possible spreading code by using an error correction decoder, judging that said spreading code is a retransmission request when there is receiving quality that is greater than a threshold among receiving qualities obtained from the distances, and retransmitting a multicast signal of a number corresponding to spreading code used for obtaining the receiving quality that is greater than the threshold.

Claim 42 (New): The multicast transmission method as claimed in claim 40, wherein said spreading code is error correction code.

Claim 43 (New): The multicast transmission method as claimed in claim 37, wherein said base station performs path diversity for receiving a signal from said mobile station.

Claim 44 (New): A multicast transmission system comprising a base station and a plurality of mobile stations in which the same information is transmitted from said base station to a plurality of mobile stations, wherein:

a mobile station in said mobile stations sends spreading code as a retransmission request signal to said base station when said mobile station detects an error in a received multicast signal; and

said base station obtains a correlation value of said spreading code by using a correlator, judges that said spreading code is a retransmission request when said correlation



value is greater than a threshold, and retransmits a multicast signal corresponding to said retransmission request.

Claim 45 (New): A multicast transmission system comprising a base station and a plurality of mobile stations in which the same information is transmitted from said base station to a plurality of mobile stations, wherein:

a mobile station in said mobile stations sends spreading code as a retransmission request signal to said base station when said mobile station detects an error in a received multicast signal, wherein multicast signals are numbered, and said spreading code is uniquely associated with a number of the received multicast signal; and

said base station obtains correlation values between said spreading code and every possible spreading code by using a correlator, judges that said spreading code is a retransmission request when there is a correlation value that is greater than a threshold, and retransmits a multicast signal of a number corresponding to spreading code used for obtaining the correlation value that is greater than the threshold.

Claim 46. (New) The multicast transmission system as claimed in claim 44, wherein said spreading code is orthogonal Gold code.

Claim 47 (New): A multicast transmission system comprising a base station and a plurality of mobile stations in which the same information is transmitted from said base station to a plurality of mobile stations, wherein:

a mobile station in said mobile stations sends spreading code as a retransmission request signal to said base station when said mobile station detects an error in a received multicast signal; and

said base station obtains a distance between said spreading code and other spreading code by using an error correction decoder, judges that said spreading code is a retransmission request when receiving quality obtained by the distance is greater than a threshold, and retransmits a multicast signal corresponding to said retransmission request.

Claim 48 (New): A multicast transmission system comprising a base station and a plurality of mobile stations in which the same information is transmitted from said base station to a plurality of mobile stations, wherein:

a mobile station in said mobile stations sends spreading code as a retransmission request signal to said base station when said mobile station detects an error in a received multicast signal, wherein multicast signals are numbered, and said spreading code is uniquely associated with a number of the received multicast signal; and

said base station obtains distances between said spreading code and every possible spreading code by using an error correction decoder, judges that said spreading code is a retransmission request when there is receiving quality that is greater than a threshold among receiving qualities obtained from the distances, and retransmits a multicast signal of a number corresponding to spreading code used for obtaining the receiving quality that is greater than the threshold.

Claim 49 (New): The multicast transmission system as claimed in claim 47, wherein said spreading code is error correction code.

Claim 50 (New): A base station in a multicast transmission system in which the same information is transmitted from said base station to a plurality of mobile stations, said base station comprising:

a part configured to receive spreading code as a retransmission request signal of a multicast signal from a mobile station in said mobile stations;

a correlator configured to obtain a correlation value of said spreading code; and

a part configured to judge that said spreading code is a retransmission request when said correlation value is greater than a threshold, and retransmits a multicast signal corresponding to said retransmission request.

Claim 51 (New): A base station in a multicast transmission system in which the same information is transmitted from said base station to a plurality of mobile stations, said base station comprising:

a part configured to receive spreading code as a retransmission request signal of a multicast signal from a mobile station in said mobile stations, wherein multicast signals are numbered, and said spreading code is uniquely associated with a number of the multicast signal;

a correlator configured to obtain correlation values between said spreading code and every possible spreading code; and

a part configured to judge that said spreading code is a retransmission request when there is a correlation value that is greater than a threshold, and retransmit a multicast signal of a number corresponding to spreading code used for obtaining the correlation value that is greater than the threshold.

Claim 52 (New): The base station as claimed in claim 50, wherein said spreading code is orthogonal Gold code.

Claim 53 (New): A base station in a multicast transmission system in which the same information is transmitted from said base station to a plurality of mobile stations, said base station comprising:

a part configured to receive spreading code as a retransmission request signal of a multicast signal from a mobile station in said mobile stations;

an error correction decoder configured to obtain a distance between said spreading code and other spreading code; and

a part configured to judge that said spreading code is a retransmission request when receiving quality obtained by the distance is greater than a threshold, and retransmit a multicast signal corresponding to said retransmission request.

Claim 54 (New): A base station in a multicast transmission system in which the same information is transmitted from said base station to a plurality of mobile stations, said base station comprising:

a part configured to receive spreading code as a retransmission request signal of a multicast signal from a mobile station in said mobile stations, wherein multicast signals are numbered, and said spreading code is uniquely associated with a number of the multicast signal;

an error correction decoder configured to obtain distances between said spreading code and every possible spreading code; and

a part configured to judge that said spreading code is a retransmission request when there is receiving quality that is greater than a threshold among receiving qualities obtained from the distances, and retransmit a multicast signal of a number corresponding to spreading code used for obtaining the receiving quality that is greater than the threshold.

Claim 55 (New): The base station as claimed in claim 53, wherein said spreading code is error correction code.

Claim 56 (New): The base station as claimed in claim 53, further comprising a part configured to perform path diversity for receiving a signal from said mobile station.

Claim 57 (New): A multicast transmission method in a multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, wherein:

if said mobile station receives a retransmitted multicast signal without an error after sending a retransmission request signal to said base station when detecting an error in a received multicast signal, said mobile station does not perform error detection for a multicast signal which includes the same information as said retransmitted multicast signal and which is further retransmitted after receiving said retransmitted multicast signal; and

when said mobile station does not detect any error in a received multicast signal, said mobile station does not send any signal, and

said base station determines directivity of an antenna on the basis of an incoming wave from said mobile station, and retransmits a multicast signal by using said directivity.

Claim 58 (New): A multicast transmission method in a multicast transmission system in which the same information is transmitted from a base station to a plurality of mobile stations, wherein:

if said mobile station receives a retransmitted multicast signal without an error after sending a retransmission request signal to said base station when detecting an error in a received multicast signal, said mobile station does not perform error detection for a multicast

signal which includes the same information as said retransmitted multicast signal and which is further retransmitted after receiving said retransmitted multicast signal; and

when said mobile station does not detect any error in a received multicast signal, said mobile station does not send any signal, and

said base station retransmits a multicast signal corresponding to said retransmission request signal after changing a transmission method when said base station receives said retransmission request signal from said mobile station.